Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

P6915

LIBRARY OCT 10 1918 BUREAU OF

PLANT IMMIGRANTS.

No. 137. SEPTEMBER, 1917.

GENERA REPRESENTED IN THIS NUMBER.

	Page		Page
Amaranthus	1225	Garcinia	1228
Annona	1225	Ipomoea	1228
Brassica	1225, 1226	Litchi	1231
Chloris	1226	Passiflora	1229
Citrus	1231	Prunus	1229, 1230
Cudrania	1227	Psidium	1232
Cyphomandra	1231	Tetrazygia	1230
Durio	1227		

Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by Agricultural Explorers and Foreign Correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,

Agricultural Explorer in Charge.

August 8, 1918.

Anyone desiring to republish any portion of this circular should obtain permission by applying to this Office.

Amaranthus gangeticus L. (Amaranthaceae.) 45182. **Amaranth.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2385a. Hanchow, China. March 9, 1917.) A green-leaved amaranth, much cultivated in central China as a garden vegetable; and eaten, when young, like spinach. The plant stands any amount of moist heat, and can be sown at intervals throughout the summer. As the seedlings suffer a good deal at times from damping off, the Chinese generally have the beds raised slightly above the surrounding land and then cover the surface with a sifted mixture of soot, ashes, and lime, which acts as a fertilizer as well as a fungicide. Chinese name **Pai han ts'ai,** meaning 'White amaranth vegetable'. This **Han ts'ai** probably can be made a popular hot weather vegetable throughout the southern sections of the United States." (Meyer.)

Annona cherimolia x squamosa (Annonaceae.) 43181. **Hybrid Anona.** Grown at the Plant Introduction Field Station, Miami, Florida, from Garden No. 1803, tree C. A hybrid between the cherimoya and the sugar-apple, produced by Mr. Edward Simmonds of the Miami Field Station. It combines the unusual sweetness of the sugar-apple with the firmness and better shipping quality of the cherimoya. The trees show unusual vigor, having withstood the freeze of February, 1917, (temperature 26° F.) without being much damaged.

Brassica pekinensis (Lour.) Gagn. (Brassicaceae.) 45185. **Pai ts'ai** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2388a. Taianfu, Shantung, China. March 1, 1917.) A heavy, winter chinese cabbage of fine quality, making firm, much elongated heads. Sown out in early August and transplanted in rich, well-worked soil; it must not suffer from lack of water. Can be kept throughout the whole winter when stored in a cool dugout cellar; can also be held in good condition for several months when hung from the rafters of a cool storeroom, or kept in an airy box." (Meyer.)

Brassica pekinensis (Lour.) Gagn. (Brassicaceae.) 45186. **Pai ts'ai.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2389a. Hankow, China. June 9, 1917.) A spring and autumn variety of Chinese cabbage of open growth; eaten boiled like kale or mustard sprouts. Sown from

early April to the end of May for spring consumption; for autumn use it is planted from the end of July to the end of August. Chinese name **Ya hao pai ts'ai,** meaning 'Fresh leaf cabbage'." (Meyer.)

Brassica pekinensis (Lour.) Gagn. (Brassicaceae.) 45187. **Pai ts'ai.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2390a. Hankow, China. June 9, 1917.) An open headed, very dark green variety of Chinese cabbage, sown out in September; persists throughout the winter in mild climates. Chinese name **Hei pai ts'ai,** meaning 'Black Chinese cabbage.' Probably this should be cultivated as greens for winter in the South Atlantic and Gulf States." (Meyer.)

Brassica pekinensis (Lour.) Gagn. (Brassicaceae.) 45188. **Pai ts'ai.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2391a. Hanchow, China. June 9, 1917.) An open-headed variety of Chinese cabbage, sown out in August and used as a fall and winter vegetable. Chinese name **Chiang kan pai ts'ai,** meaning 'Car-shaped pai ts'ai.' This should probably be cultivated as a greens for winter use in the South Atlantic and Gulf States." (Meyer.)

Brassica pekinensis (Lour.) Gagn. (Brassicaceae.) 45189. **Pai ts'ai.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2392a. Hanchow, China. June 9, 1917.) A winter variety of **pai ts'ai** with solid heads; sown out in September. Chinese name **Nan ching pai ts'ai,** meaning 'Nanking cabbage.' This should probably be cultivated as a greens for winter in the South Atlantic and Gulf States." (Meyer.)

Chloris breviseta Bentham. (Poaceae.) 45208. **Grass.** From Leverville, Belgian Kongo. Presented by Pere Hyacinthe Vanderyst, Jardin Agrostologique, through Mr. C. V. Piper. "(Jardin Agrostologique, Leverville, July, 1917.)" A West African grass from the Cape Coast region, resembling *C. compressa* in the structure of its flowers. The new growth is said, in Belgian Kongo, to form an excellent pasture for small animals. Rhodes Grass, *C. gayana,* also from western tropical Africa, has succeeded so well in the Southern States, that this grass also, should receive a thorough trial.

Cudrania tricuspidata (Carr.) Bureau. (Moraceae.) 45194. Grown at Yarrow Field Station from seed received from the P. J. Berckmans Company, Augusta, Georgia. A small deciduous tree, with slender, thorny branches, and fleshy subglobose edible fruits. Messrs. Berckmans, in sending in the seed, reported that although the one tree left in their nursery at that time had fruited very well, it was rather difficult to get any amount of fruit at one time, because the laborers seem so fond of it. The fruit is a very attractive color, pink with a delicate bloom on it. There are numerous small seeds and the flesh is soft and melting with a flavor which should be more pronounced to be really satisfactory. It is a relative of the osage orange (*Maclura*) and has been hybridized with it successfully. Its fruits ripen in October and November, and the best flavored seedlings should be selected. There is another species, *C. javanica*, which is tender, but which might be valuable for breeding purposes. This Chinese species is hardy at Washington, D. C. (Fairchild.)

Durio zibethinus Murray. (Bombacaceae.) 45179. **Durian.** From Dominica, British West Indies. Presented by Mr. Joseph Jones, Curator, Botanic Gardens. "I believe Dominica is the only place in the Western tropics in which the Durian tree has fruited. It first bore fruit in this island as far back as 1892." (Jones.) A very large, handsome, pyramid-shaped tree, native of the Malay Archipelago, and commonly cultivated in the Straits Settlements, Burma, Java. etc., for the sake of its celebrated fruit. The latter, produced on the older branches, varies somewhat from round to oval in shape, and usually weighs from 5 to 7 lbs., though sometimes as much as 10 lbs. It is armed with thickly set formidable prickles about one-half inch long; when ripe it becomes slightly yellow, and possesses an odor which is intensely offensive to most people, especially on first acquaintance with it. The cream-colored pulp surrounding the seed is the edible portion; this is most highly prized by the Malays and other Oriental races, and is also relished by the Europeans who acquire a taste for it. The large seeds may be roasted and eaten like chestnuts. Durian fruits are variable in size, shape, flavor, and quantity of pulp, according to variety. The trees also vary in productiveness, some varieties being almost barren. Selection and high cultivation should, therefore, be

practised in order to obtain the best fruit. The tree is readily propagated by seed if sown fresh. The large fleshy seed is of short vitality, and germinates in seven to eight days. (Adapted from Macmillan, Handbook of Tropical Gardening and Planting.)

Garcinia mangostana L. (Clusiaceae.) 45180. **Mangosteen.** From Dominica, British West Indies. Presented by Mr. Joseph Jones, Curator, Botanic Gardens. A moderate-sized conical tree, with large leathery leaves, indigenous to Malaya. Its globular purplish brown fruit, about the size of an apple, is famed as one of the most delicious fruits of the tropics. The delicate white juicy pulp surrounding and adhering to the seed is the part eaten. In striking contrast to it is the dense, thick, reddish rind, containing tannic acid and a dye. The tree is of very slow growth and does not usually come into bearing till about nine or ten years old. The essential conditions for it are a hot, moist climate, and deep, rich well-drained soil. Propagation is usually by seed, but may also be effected by "gootee" or layering. (Adapted from Macmillan, Handbook of Tropical Gardening and Planting.) This office has imported several other species of Garcinia with the object of finding a suitable stock for the mangosteen on which will make the culture of this remarkable tree possible over a wide range of soils. Some of these stocks wintered through the Florida freeze of 1917 when the thermometer went to 26° F. and are now growing satisfactory. (Fairchild.)

Ipomoea reptans (L.) Poiret. (Convolvulaceae.) 45184. From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2387a. Wuchang, Hupeh, China. June 15, 1917.) The **Kuan ts'ai,** an annual herb, is cultivated by the Chinese as a hot weather leaf-vegetable, and is prepared and eaten much like spinach. It is usually sown in rows at intervals during the spring and summer to insure a continuous supply of greens. It thrives best in a rather wet heavy soil, and withstands being submerged (even for several days) without injury. The foliage resembles that of the sweet potato a good deal, but the roots are not fleshy. The young shoots are cut at intervals until the plants become exhausted. The white or pale rose-colored flowers appear in July and August, and shortly after flowering the plants set a good supply

of seeds which is harvested for the next season crop. Chinese name **Kuan ts'ai (Wong ts'ai)**, meaning 'Jar vegetable' or 'Bamboo-leaf vegetable'." (Meyer.)

Passiflora sp. (Passifloraceae.) 45226. **Passion fruit.** From Oran, Argentina. Presented by Mr. S. W. Damon. "A yellow-fruited, acid type, which I consider much superior to the purple type." (Damon.)

Prunus conradinae (Amygdalaceae.) 45215. **Cherry.** Grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Handsome tree, from western China, up to 40 feet in height, with the trunk 8 to 20 inches in diameter, thin, pale green leaves, and white to deep blush-colored flowers, an inch or less across, which appear early in the spring. It is very similar to Sargent's cherry (*P. serrulata sachalinensis*). Its satisfactory behavior over a wide range of territory would seem to indicate its possible use as a stock. It might prove immune to the gummosis disease, or the crown gall or even the peach tree borer, and deserves an extensive trial." (Fairchild.)

Prunus mume Sieb & Zucc. (Amygdalaceae.) 45176. **Japanese apricot.** Grown at the Plant Introduction Field Station, Chico, California, from scions presented by Mr. David Fairchild, from his place "In the Woods". "Variety **Ginfukurin.** A white-flowered variety of the so-called 'Japanese flowering plum tree'. These are among the most picturesque of all flowering trees; and compose a large part of the illustrations on Japanese screens. Because of their extreme earliness and the fragrance of their blooms, they deserve a place in our gardens. The fruits are sour but they have a delicious wild flavor and aroma about them reminding one of our wild goose plum. When pickled they form, as do olives with us, an important adjunct to a meal. These pickled mumes form a part of the ration of the Japanese army and their use is said to quench thirst effectually. They are extremely sour and their use with meats might become popular in America. The flowers of many varieties are often caught by the frost; but the **Ginfukurin** is rather slow in coming into bloom, and so is more likely to escape." (Fairchild.)

Prunus serrulata sachalinensis (Schmidt) Makino. (Amygdalaceae.) 45178. From Yokohama, Japan. Purchased from the Yokohama Nursery Company. "**Yamazakura** (mountain cherry)." A deciduous tree, 40 to 80 feet in height, with a trunk sometimes 3 feet in diameter, and sharply serrate oval leaves which are often reddish when young. The deep pink flowers, from 1¼ to 1½ inches wide, are produced in short-stalked umbels of two to six flowers. The fruit is a small black cherry, 1/3 inch in diameter. This tree, a native of Japan, is probably the finest timber tree among the true cherries, and is also remarkable for its beautiful flowers, which appear in April. The seeds germinate freely after lying dormant for a year. (Adapted from W. J. Bean, Trees and Shrubs Hardy in the British Isles, vol. 2, pp. 250, 251, under *Prunus sargentii*.) This flowering cherry tree has proven hardy on the Atlantic Seaboard as far north as Massachussetts, and Professor Sargent of the Arnold Arboretum recommends it as one of the most beautiful of all the flowering cherries. (Fairchild.)

Prunus subhirtella pendula (Amygdalaceae.) 45216. **Drooping Cherry of Japan.** Grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". One of the loveliest of all flowering trees. In Japan, growing to a great age and to large size. In the Kyoto park, stands a historic specimen 3 feet in diameter of trunk, with drooping branches covering a whole square which is reported to be 300 years old. It flowers in Maryland about the same time that it does in Japan i,e. the last week in April, and when in bud, full bloom, or passing out of bloom can not be surpassed by any other tree in loveliness. Its flowers are small, single, borne in pairs or threes and they come out before the leaves. For parks and avenues it may not be so showy when seen from a distance as the double flowering kinds, but as a door yard tree when it can be viewed from near by it cannot be surpassed. Hardy to Massachussets. (Fairchild.)

Tetrazygia bicolor (Miller.) Goen. (Melastomaceae.) 45177. From Homestead, Fla. Presented by Mr. Chas. A. Mosier. A low tree, 20 feet high, remarkable for the white powdery down of the branchlets and the inflorescence. Leaves 3 to 5 inches long, variable in

breadth, entire; flowers large, white, in 5 to 7-flowered cymes. Native of the West Indies. (Adapted from Grisebach, Flora of the West Indian Islands.)

Notes on Behavior of Previous Introductions.

Citrus limonia Osbeck (23028). Mr. Frank J. Hart, of Los Angeles, California, says: "I am sending you a small crate of the fruit of the Chinese lemon, distributed under your S.P.I. No. 23028, in June, 1912. These beautiful little shrubs, about two to two and one-half feet high, of somewhat large spread, are certainly a successful introduction from every point of view. They are beautiful, ornamental, and very prolific bearers. These two little shrubs keep my family almost entirely in lemons,- they using them in preference to any other lemon,- of which I have all the different varieties growing on my place. I am very sorry that they use them up so closely that none of the cured lemons are on hand. If they were, you could then see that the texture of the skin, the color, shape, and size are almost perfect from a lemon man's standpoint. They are hardy too, as they bear and blossom just as well in the colder weather here, as they do in midsummer."

Cyphomandra betacea (36934). **Tree Tomato.** Mr. Geo. B. Shaffer, in letter of January 23, 1918, reports: "Just a word concerning the Tree Tomato sent me from the Chico Station in February, 1915. In the fall of 1916, this matured 15 fruits. The plant was slightly injured by frost in December, 1916, but recovered, and has just matured 21 fruits. From seed of the first crop, I have raised 20 vigorous plants, each now two feet in height. I shall continue to grow and propagate these plants, with a view of acclimating them with the hope of ultimately making them a commercial product. Preserved in honey, they are certainly an ideal condiment." *Litchi chinensis* (40973). "I am particularly interested in the development of one of the litchi, received from Yarrow last February. These trees were set out in the orchard, with thin muslin protection over head and on three sides, the west side being left open. Two died, but the third has made a growth of a foot, and is a beautiful plant. These trees were given frequent waterings." (Geo. B. Shaffer, Los Angeles, California. January 23, 1918.)

Psidium guajava L. (34418). **Guava.** Mr. H. H. Kolb, of Petersburg, Florida, reports: "The 3 guava plants sent me in 1904, were planted on what is commonly called flat land, of a good sandy loam. They made the most unusual growth of anything I have ever planted. They were given a small quantity of corn fertilizer about every three months, and were carefully watered whenever necessary. Two of these plants bloomed in May, 1915; the largest one had about 17 fruits, and the other about 6. The third one failed to bloom. Every one who tasted the fruit, pronounced it the finest they had ever known. The meat is a light pink, very thick, and the seed cavity is small. The fruit is pear-shaped and of very good size. Altogether it is without a doubt the finest guava ever grown. Of course these plants were given extraordinary care, but the result has been just as good."

United States Department of Agriculture.
Bureau of Plant Industry.
Office of Foreign Seed and Plant Introduction.
Washington, D. C.

Washington Scientific Staff.

David Fairchild, Agricultural Explorer in Charge.
P. H. Dorsett, Plant Introducer, in Charge of Plant Introduction Field Stations.
B. T. Galloway, Plant Pathologist.
Peter Bisset, Plant Introducer, in Charge of Foreign Plant Distribution.
Wilson Popenoe, Agricultural Explorer.
H. C. Skeels and R. A. Young, Botanical Assistants.
H. E. Allanson, D. A. Bisset, Miss Bessie M. Broadbent, L. G. Hoover, R. N. Jones, P. G. Russell, and G. P. Van Eseltine, Assistants.
Edward Goucher, Plant Propagator.

Field Stations Scientific Staff.

R. L. Beagles, Superintendent in Charge, Plant Introduction Field Station, Chico, Cal.
E. O. Orpet, Assistant in Plant Introduction.
J. M. Rankin, Superintendent in Charge, (Yarrow) Plant Introduction Field Station, Rockville, Md.
Edward Simmonds, Superintendent in Charge, Plant Introduction Field Station, Miami, Fla.
J. E. Morrow, Superintendent in Charge, Plant Introduction Field Station, Brooksville, Fla.
Henry E. Juenemann, Superintendent in Charge, Plant Introduction Field Station, Bellingham, Wash.

Collaborators.

Mr. Aaron Aaronsohn, Haifa, Palestine.
Mr. Thomas W. Brown, Cairo, Egypt.
Mr. H. M. Curran, Laurel, Md.
Mr. M. J. Dorsey, University Farm, St. Paul, Minn.
Mr. Robt. H. Forbes, Tucson, Ariz.
Mr. Gustav Eisen, New York City.
Mr. A. C. Hartless, Saharanpur, India.
Mr. Barbour Lathrop, Chicago, Ill.
Mr. C. C. Logan, Luray, Va.
Mr. H. Nehrling, Gotha, Fla.
Miss Eliza R. Scidmore, Washington, D. C.
Mr. Charles Simpson, Littleriver, Fla.
Mr. H. P. Stuckey, Experiment, Ga.
Dr. L. Trabut, Director, Service Botanique, Algiers, Algeria.
Mr. H. N. Whitford, School of Forestry, New Haven, Conn.
Mr. E. H. Wilson, Arnold Arboretum, Jamaica Plain, Mass.